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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/803,133

03/17/2004

Clint Miller

TROU1100-2

6133

44654 7590 10/07/2008  
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EXAMINER

RAYYAN, SUSAN F

ART UNIT

PAPER NUMBER

2167

MAIL DATE

DELIVERY MODE

10/07/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/803,133	<b>Applicant(s)</b> MILLER ET AL.	
	<b>Examiner</b> SUSAN FOSTER RAYYAN	<b>Art Unit</b> 2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8, 12-18 and 23-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 12-18, 23-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 28, 2008 has been entered.

2. Claims 9-11, 19-22 are canceled. Claims 1-8, 12-18, 23-26 are pending.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

**Claims 1-5, 8, 12-16, 23-26 are rejected under 35 U.S.C. 102(a) as being anticipated by US Patent Publication Number 2006/0167927 issued to Joseph Edelstein et al (“Edelstein”).**

**As per claim 1** Edelstein anticipates:

translating a query to a set of statements(Figure 2, 230-240 query expressed in ontology language is converted to data schema language) operable to search (Figure2, ref.no. 250:execute query on data sources) the applied data model to an arbitrary level wherein the applied data model is a representation of an arbitrarily complex environment (see Figure 9 for representing an arbitrarily complex environment) and comprises at least one component (paragraph 26, lines 5-6, as subject class) and a relationship ) corresponding to at least one component (paragraph 26, line 8, as property or composition of properties), wherein the at least one component represents an entity in the arbitrarily complex environment (see Figure 9, for representing an arbitrarily complex environment and PERSON/CHILD/SCHOOL as entities) wherein the relationship represents an association between the entity and the other entities in the arbitrarily complex environment (see Figure 9 and “Mother” represents a relationship between entities PERSON and CHILD), and wherein the query is a component query (paragraph 85, lines 5, as SELECT Child.name, Child.mother .name) or a relationship query(paragraph 85, lines 7, as WHERE Child.school\_attending.location=”London” (paragraph 19, as convert a query referring to the central ontology model into a corresponding query referring to a data schema within the central ontology model and convert it into queries and paragraph 20, user can select a class (arbitrary level )see Figure 9:

Art Unit: 2167

Child and Person and School represents components and reference numbers 9 for example represents a relationship));

searching the applied data model to the arbitrary level based on the set of statements (paragraph 20, select a class) translated from the query,

wherein the query is in a first query language and

wherein the set of statements is capable of execution by a database

management system supporting a second query language (Figure 2, 230-240

query expressed in ontology language is converted to data schema language);

producing a set of replies to the set of statements wherein the set of replies

includes at least one component or one relationship at the arbitrary level

(paragraph 20, select a class and paragraph 85, the ontology language query

(set of statements) returns results as a list of children's names and mother's names);

processing the set of replies based on the query (paragraph 73, display

messages regarding results of data locating process).

**As per claim 2**, same as claim arguments above and Edelstein anticipates:

wherein the set of statements is tailored to a table schema (paragraphs 84-85 a

ontology language query (set of statements) and Table IV: Mapping from Source

schema to Ontology and paragraph 53, 56, data schema query language).

Art Unit: 2167

**As per claim 3**, same as claim arguments above and Edelstein anticipates: wherein the table schema implements a data model (paragraph 22, paragraph 84- Table IV: Mapping from Source schema to Ontology and Figure 9).

**As per claim 4**, same as claim arguments above and Edelstein anticipates: wherein the table schema represents a graph of the applied data model (paragraph 84, Table IV and Figure 9).

**As per claim 5**, same as claim arguments above and Edelstein anticipates: ... operable to perform a graph search (paragraph 84, Table IV and Figure 9).

**As per claim 8**, same as claim arguments above and Edelstein anticipates: wherein processing the set of replies comprises structuring the results (paragraph 54, query processor and paragraph 78, generating location-based reports).

**As per claim 23** Edelstein anticipates: translating a query to a set of statements (Figure 2, 230-240 query expressed in ontology language is converted to data schema language) operable to search (Figure2, ref.no. 250:execute query on data sources ) an applied data model to an arbitrary level wherein the applied data model is a representation of an arbitrarily complex environment (see Figure 9 for representing an arbitrarily complex environment)and comprises at least one component (paragraph 26, lines 5-6, as subject class) and a relationship (paragraph 26, line 8, as property

Art Unit: 2167

or composition of properties) corresponding to at least one component, wherein the at least one component represents a physical or logical entity in the arbitrarily complex environment (see Figure 9, for representing an arbitrarily complex environment and PERSON/CHILD/SCHOOL as physical entities), wherein the relationship represents an association between a physical or logical entity and the other a physical or logical entities in the arbitrarily complex environment (see Figure 9 and "Mother" represents a relationship between physical entities PERSON and CHILD),

and wherein the query is a component query (paragraph 85, lines 5, as SELECT Child.name, Child.mother .name) or a relationship query (paragraph 85, lines 7, as WHERE Child.school\_attending.location="London" (paragraph 19, as convert a query referring to the central ontology model into a corresponding query referring to a data schema within the central ontology model and convert it into queries and paragraph 20, user can select a class (arbitrary level )see Figure 9: Child and Person and School represents components and reference numbers 9 for example represents a relationship);

searching the applied data model to the arbitrary level based on the set of statements (paragraph 20, select a class) translated from the query, wherein the query is in a first query language and wherein the set of statements is capable of execution by a database management system supporting a second query language (Figure 2, 230-240 query expressed in ontology language is converted to data schema language);

Art Unit: 2167

and wherein the set of statements implements a graph search (Figure 9);  
producing a set of replies to the set of statements wherein the set of replies  
includes at least one component or one relationship at the arbitrary level  
(paragraph 20, select a class and paragraph 85, the ontology language query  
(set of statements) returns results as a list of children's names and mother's  
names);

processing the set of replies based on the query (paragraph 73, display  
messages regarding results of data locating process).

wherein the set of statements implements a graph search (Figure 9).

**As per claim 24**, same as claim arguments above and Edelstein anticipates:

Wherein the query specifies the arbitrary level (column 20, as a user can  
select a class).

**As per claim 25**, same as claim arguments above and Edelstein anticipates:

Wherein the query specifies the arbitrary level (column 20, as a user can  
select a class).

**As per claim 26**, same as claim arguments above and Edelstein anticipates:

Wherein the query specifies the arbitrary level (column 20, as a user can  
select a class).



**Claims 12-16**, are rejected based on the same rationales as claims 1-5 above.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 6-7, 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Publication Number 2006/0167927 issued to Joseph Edelstein et al (“Edelstein”) as applied to claims 5, 16 above, and further in view of US Patent Number 6,509,898 issued to Ed H. Chi et al (“Chi”).**

**As per claim 6**, same as claim arguments above and Edelstein does not explicitly teach ... a breadth first graph search. Chi does teach this limitation (Abstract) to efficiently retrieve data. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Edelstein with a breadth first search to efficiently retrieve data.

Art Unit: 2167

**As per claim 7**, same as claim arguments above and Edelstein teaches:

wherein the set of statements is in SQL (paragraph 5, paragraph 62).

**Claims 17-18** are rejected based on the same rationale as claims 6-7.

### ***Response to Arguments***

5. Applicant's arguments filed August 28, 2008 have been fully considered but they are not persuasive.

6. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., (a) data models are for arbitrarily complex environments with physical **as well as** logical entities, (b) an arbitrary complex environment such as an IT environment may include server computers and applications running on the server computers, (c) a query language may support both component queries and relationship queries which are built with clauses and conjunctions ) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

7. Edelstein teaches arbitrarily complex environments with physical or logical entities at figure 9, as an arbitrarily complex environment and PERSON/CHILD/SCHOOL as entities (physical entity).

8. Applicant argues prior art of record does not teach "translating a query to a set of statements operable to search the applied data model to an arbitrary level, wherein the applied data model is a representation of an arbitrarily complex environment and comprises at least one component and a relationship corresponding to the at least one component, wherein the at least one component represents a physical or logical entity in the arbitrarily complex environment, wherein the relationship represents an association between the physical or logical entity and other physical or logical entities in the arbitrarily complex environment, and wherein the query is a component query or a relationship query in a first query language."

Edelstein does teach translating a query to a set of statements(Figure 2, 230-240 query expressed in ontology language is converted to data schema language) operable to search (Figure2, ref.no. 250:execute query on data sources) the applied data model to an arbitrary level wherein the applied data model is a representation of an arbitrarily complex environment (see Figure 9 for representing an arbitrarily complex environment) and comprises at least one component (paragraph 26, lines 5-6, as subject class) and a relationship ) corresponding to at least one component (paragraph 26, line 8, as property or composition of properties), wherein the at least one component represents a physical or logical entity in the arbitrarily complex environment (see Figure 9, for

Art Unit: 2167

representing an arbitrarily complex environment and PERSON/CHILD/SCHOOL as physical entities ),wherein the relationship represents an association between the physical or logical entity and other physical or logical entities in the arbitrarily complex environment (see Figure 9 and “Mother” represents a relationship between physical entities PERSON and CHILD), and wherein the query is a component query (paragraph 85, lines 5, as SELECT Child.name, Child.mother.name) or a relationship query(paragraph 85, lines 7, as WHERE Child.school\_attending.location=”London” (paragraph 19, as convert a query referring to the central ontology model into a corresponding query referring to a data schema within the central ontology model and convert it into queries and paragraph 20, user can select a class (arbitrary level )see Figure 9: Child and Person and School represents components and reference numbers 9 for example represents a relationship)), searching the applied data model to the arbitrary level based on the set of statements (paragraph 20, select a class) translated from the query, wherein the query is in a first query language

9. Applicant argues prior art of record does not teach a breadth first graph search. Chi does teach this limitation (Abstract) to efficiently retrieve data. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Edelstein with a breadth first search to efficiently retrieve data. A breath first search is well known in the art.

**Contact Information**

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SUSAN FOSTER RAYYAN whose telephone number is (571)272-1675. The examiner can normally be reached on M-F, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on 571-272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John R. Cottingham/  
Supervisory Patent Examiner, Art  
Unit 2167

Application/Control Number: 10/803,133

Page 13

Art Unit: 2167

Susan Rayyan

September 28, 2008